



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/538,240

06/07/2005

Hideki Sawada

10921.328USWO

3630

52835

7590

10/16/2007

HAMRE, SCHUMANN, MUELLER & LARSON, P.C.

P.O. BOX 2902

MINNEAPOLIS, MN 55402-0902

EXAMINER

LEE, GUNYOUNG T

ART UNIT

PAPER NUMBER

2875

MAIL DATE

DELIVERY MODE

10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,240

Applicant(s)

SAWADA, HIDEKI

Examiner

Gunyoung T. Lee

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 3-8 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on 08/31/2007 has been entered:
 - Claims 2 and 6 have been amended;
 - Claims 1-11 are still pending in this application, with claims 1 and 11 being independent.

Claim Objections

2. Claims 9 and 11 are objected to because of the following informalities:
 - Lines 2-3 of claim 9 are unclear; and
 - The abbreviation "IC" on lines 3 and 5 of claim 11 renders the claim indefinite (it is advised by Examiner not to use an abbreviation without proper introduction in the claims).

Appropriate corrections are required.

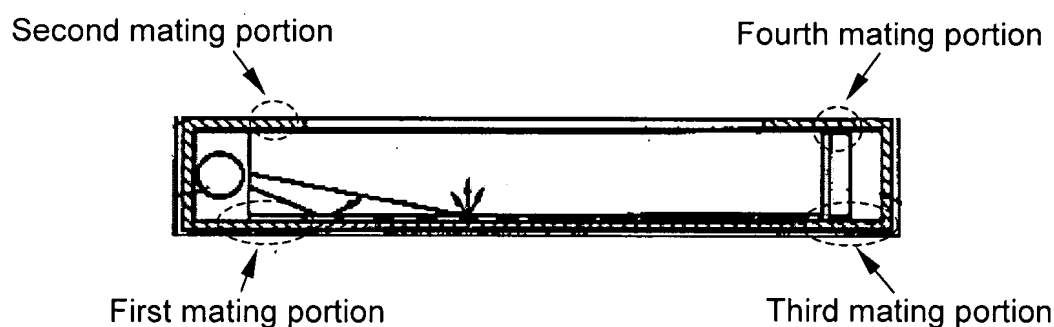
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

4. Claims 1 and 9, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda et al. (US 5,751,386) in view of Shinohara et al. (US 7,014,349).
5. Kanda et al. disclose an illumination device having:
 - An optical conduction body (4) and a reflector unit (3, 5), wherein the optical conduction body (4) includes (Fig. 2) a light incidence surface for receiving light

from a light source (2), a light outgoing (top) surface extending in a x direction (consider an elongated direction of the light source, 2) to cause the light that propagated (Fig. 2) from the light incidence surface inside the optical conduction body (4) to go out to the outside;

- A pair of side surfaces (Fig. 1) joined to the light outgoing (top) surface;
- The reflector unit (Fig. 2) includes a first member (5) and a second member (3) for sandwiching the optical conduction body (4) in a y direction perpendicular to the x direction;
- The first member (5) comprises a first mating portion with the optical conduction body (4) in the y direction (as shown in the following picture), second mating portion with the optical conduction body (4) in the x direction, third mating portion with the second member (3) in the y direction, and fourth mating portion with the second member (3) in the x direction;



- The optical conduction body (4) comprises a main region (Fig. 2) having the light outgoing (top) surface and the pair of side surfaces; and

- The reflection unit (3, 5) has a tubular/channel shape (with a rectangular cross section) and surrounds the (top, back and bottom) sides of the optical conduction body (4).

6. Kanda et al. do not expressly disclose that the reflector unit covers the side surfaces of the optical conduction body. Shinohara et al. disclose a light source device having an optical conduction body (15) and a reflector (17), wherein the reflector (17) covers (Fig. 4) side surfaces of the optical conduction body (15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the reflector covering the side surfaces of the optical conduction body as shown in Shinohara et al. for the illumination device of Kanda et al., for the purpose of increase the intensity of the light on the outgoing/emission surface by preventing the light leak through the side surfaces of the optical conduction body.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda et al. (US 5,751,386) and Shinohara et al. (US 7,014,349), as applied to claim 1 above, and further in view of Tai et al. (US 5,359,691).

8. In regard to claim 2, Kanda et al. and Shinohara et al. disclose the invention substantially as claimed except that the optical conduction body does not comprise an auxiliary region. Tai et al. disclose a lighting system having an optical conduction body (10) comprising an auxiliary region (28) joined to a body (14) on a surface (60) extending in x direction (parallel to an longitudinal direction of a light source, 64) and the auxiliary region includes a light incident surface (58) and a light reflecting surface (50, 52). It would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 2875

invention was made to use the auxiliary region of Tai et al. for the illumination device of Kanda et al. modified by Shinohara et al., for the purpose of providing an illumination with high intensity and controllable collimation.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda et al. (US 5,751,386) and Shinohara et al. (US 7,014,349), as applied to claim 1 above, and further in view of Oyama et al. (US 5,808,708).

10. In regard to claim 10, Kanda et al. and Shinohara et al. disclose the invention substantially as claimed except that the reflector is made from a white resin. Oyama et al. disclose a lighting apparatus having a reflector (5) made from a white resin (col. 7, lines 21-22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the white resin reflector as shown in Oyama et al. for the illumination device of Kanda et al. modified by Shinohara et al., for the purpose of lowering the manufacturing cost of the device by producing the reflector through the conventional plastic molding procedures.

Allowable Subject Matter

11. Claims 3-8 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form **including all** of the limitations of the base claim and any **intervening claims**.

12. Claim 11 is objected to because of the informality described on page 2, but would be allowable if corrected the informality.

13. Claim 3 is allowable because the prior art fails to show or teach an optical conduction unit having an optical conduction body and a reflector, wherein the reflector

comprises a first member and a second member, the first and second members of the reflector sandwich the optical conduction body in a x direction, the first member of the reflector mates the optical conduction body and the second member at different portions, the first member comprise a body section extending in the x direction and first and second wall sections protruding in a y direction, and an auxiliary region of the optical conduction body is inserted between the first and second wall sections of the first member.

14. Claim 11 is allowable because the prior art fails to show or teach an image reading device having a light source, a plurality of sensor integrated circuit (IC) chips and an optical conduction unit, wherein the optical conduction unit illuminates the light from the light source toward a document, the sensor IC chips receive the reflected light from the document, the optical conduction unit comprises a reflector having first and second members, the first and second members sandwich the optical conduction unit, and the first member of the reflector mates the optical conduction unit at first and second portions and the second member at third and fourth portions.

15. Applicant's arguments with respect to claims 1-11 filed on 08/31/2007 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

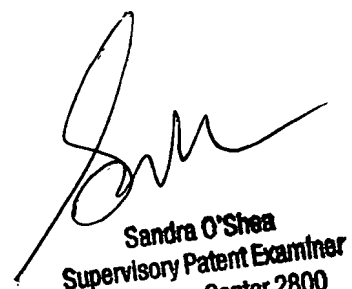
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kitazawa et al. (US 5,070,431), Ogura et al. (US 6,417,508), Toyoda (US 6,530,669), Hanson et al. (US 6,685,328), Ato (US 6,935,766) and Okamoto et al. (US 7,085,023) show devices having optical conduction units.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gunyoung T. Lee whose telephone number is (571) 272-8588. The examiner can normally be reached between 7:30 - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea can be reached at (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GTL
10/12/2007



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800